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Agenda Item 8b

June 13, 2011

TO: MEMBERS OF THE INVESTMENT COMMITTEE

I. SUBJECT: Risk Management Quarterly Update

II. PROGRAM: Total Fund

III. RECOMMENDATION: Information

IV. ANALYSIS:

Introduction

The purpose of this item is to provide a quarterly report on Total Fund investment risk to the Investment Committee (the Committee). The format of this item is consistent with the previous quarterly update.

Macro Risks

1. **Geopolitical/Oil**
   Geopolitical risks and capacity issues caused oil prices to spike in the February to April 2011 period. Oil prices over the last three months have been 25% higher on average from 4Q 2010. In Q1 2011, oil prices were 11% higher from prior quarter. Oil prices have declined somewhat in May, but seem to have affected consumer spending.
2. **Growth/Inflation**
   Forecasts for real US GDP in 2011 have been adjusted down in recent months to 2.7% from 3.2% in January. GDP growth was weaker in Q1 2011 at 1.8% compared to 3.1% in Q4 2010. Consumer spending rose 2.2% in Q1, less than forecasted, following a 4% gain in the prior quarter. High oil prices appear to be constraining economic growth sooner than expected. High oil and other commodity prices have also pushed up headline inflation (CPI) to 3.2% in April. In the US, leading indicators have dipped slightly in May. Manufacturing and consumer spending data are also less robust. Global economic data are also pointing to a slow down. World GDP forecasts are slipping down toward 4.0% for 2011 after a strong 4.8% growth in 2010. The apparent slowing of global growth poses increasing risk to equity valuations.

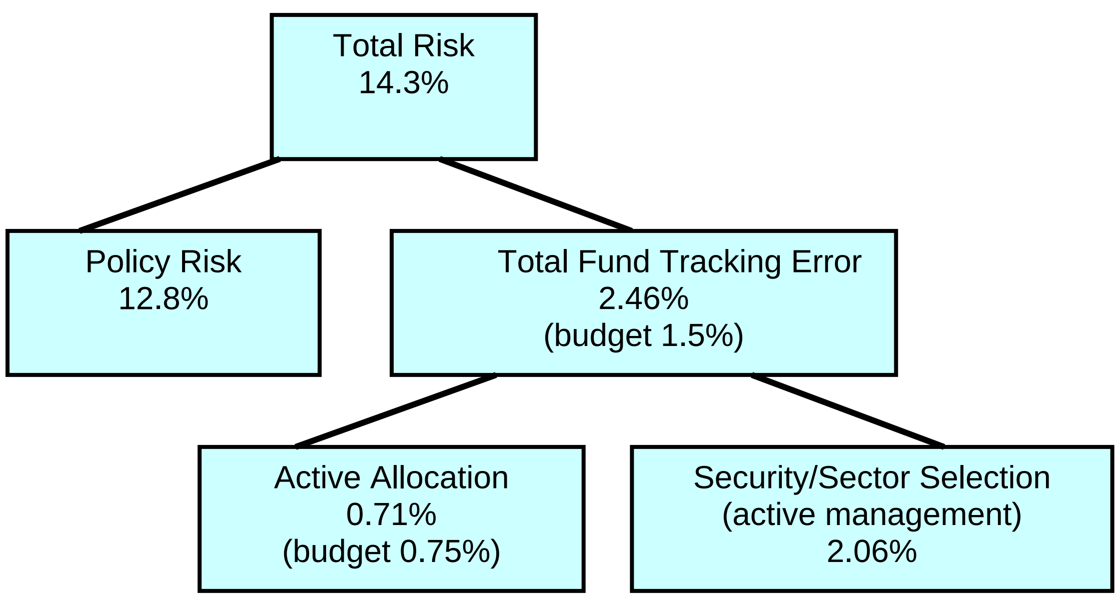
3. **Euro Debt Crisis**
   The sovereign debt crisis in Europe is resurfacing with heightened risk. Yields and credit default spreads have widened significantly for Greece, Portugal and Spain. The likelihood of default by Greece is not insignificant with potential contagion effects on the banking sector and markets in general.

The most significant risk in the CalPERS asset allocation is the equity risk estimated to be nearly 90% total risk. Lower growth and higher inflation will have material impact on equity returns should they persist. Downside risk appears to have increased at least for the very near term. The actual asset allocation of the PERF is 3.1% overweight in equities; Real Estate is underweight by 2.1% and ILAC by 0.7%.

Risk Measures

Total Fund Volatility (Forecast as of March 31, 2011)
Appendix page 1 presents CalPERS Forecast Total Risk as of March 31, 2011 for the Total Fund.

CalPERS Total Fund Risk



The above chart shows the projected volatility (standard deviation) for the Total Fund, currently at 14.3%. That total risk amount is composed of two components: policy risk and Total Fund tracking error. Policy risk assumes that the Total Fund is invested in the policy benchmark, and is currently forecast to be 12.8%. Total Fund tracking error is the expected volatility of active returns between the Total Fund and the policy benchmark and is currently forecast to be 2.46%. This is above the Total Fund risk budget of 1.5%, and a small increase from the prior quarter's Total Fund tracking error of 2.39%.

Total Fund tracking error is composed of two components: active allocation and security/sector selection. Diversification allows the total amount (2.46%) to be less than the sum of the components (0.71% and 2.06%). These components can be used to identify the investment decisions that contribute to Total Fund tracking error. The first is active allocation, or the difference in the actual allocation to each asset class compared to the policy allocation. The active allocation risk budget is 0.75%. The current forecast is just within budget at 0.71%. The selection component (2.06%) decreased approximately 30 basis points from the previous quarter, and is determined by active security selection decisions as well as sector or strategy bets. These differences can arise from either explicit investment decisions or from benchmark misfit. These active decisions are summarized at the asset class level in appendix page 2.

Total Fund Asset Allocation vs. Risk Allocation
Appendix page 3 compares the actual asset class allocation to the asset class risk contribution (allocation to Total Fund forecast volatility). Global Equity and AIM contribute a greater percentage to the overall risk of the Fund than their actual allocation. In contrast, Global Fixed Income and the Cash holdings contribute less risk than their allocation, thus they act to reduce the volatility of the Fund. Real Estate and ILAC contribute similar portions to the Total Fund risk as their allocations.

Total Fund Volatility Trends

	Policy Limit	**Current** Mar 2011	**Last Qtr** Dec 2010	**Last Year** Mar 2010	**3 Years Ago** Mar 2008
Total Risk	Not applicable	14.3%	15.2%	16.3%	8.3%
Policy Risk	Not applicable	12.8%	13.8%	15.4%	8.0%
Total Fund Tracking Error	< 1.5%	2.46%	2.39%	2.2%	1.02%
Active Allocation	< .75%	0.71%	0.68%	0.74%	Not available
Security/Sector	Not applicable	2.06%	2.40%	1.57%	Not available

Total Fund forecast total risk is 90 basis points lower than last quarter, in line with declining market volatility during the last few months. Total Fund tracking error increased very slightly.

Asset Class Volatility

	Global Equity	Global Fixed Income	Real Estate	AIM	ILAC	Cash	Total Fund
Total Risk	18.7%	7.0%	19.8%	25.5%	15.5%	0.5%	14.3%
Policy Risk	18.5%	6.6%	14.7%	30.6%	3.7%	0.0%	12.8%
Tracking Error	0.52%	2.28%	8.1%	8.9%	12.8%	0.0%	2.46%

All of the asset classes experienced lower total risk over the last quarter, with the exception of Global Fixed Income. This is in line with the continued general decline in market volatility.

Global Equity continues to have the lowest tracking error of the publicly traded asset classes in line with the benchmark oriented strategy. All asset classes experienced lower tracking error, which explains the decline in the Total Fund tracking error due to security and sector selection.

Currency Risk

	Total Risk	Currency Risk Contribution	Tracking Error	Currency Risk Contribution
Risk Measures With Currency Overlay Program	14.3%	1.5%	2.5%	0.5%
Risk Measures Without Currency Overlay Program	14.4%	2.0%	2.8%	0.6%

The above table summarizes the contribution of foreign currency to Total Fund risk both with and without the currency overlay program. The Total Fund benchmark includes the currency overlay program. The currency overlay program, therefore, reduces the contribution of currency holdings to total risk and tracking error. This program offsets some of the currency overweight positions held in the AIM and Real Estate asset classes.

Concentration Measures
The Risk Management Unit monitors Total Fund concentrations across asset classes including country, industry, currency and security asset types compared to the policy benchmark. Concentration measures are reviewed monthly as part of the Investment Strategy Group risk report. Current cross asset class industry overweights include capital goods, consumer durables and apparel, and diversified financials. Current industry underweights compared to the benchmark include energy, food beverage and tobacco, and REITs. Asset type concentrations are an overweight to structured credit and underweight to government bonds. The largest active exposure to a particular country is an underweight to the U.S. This is largely due to AIM and Real Estate holding significant international assets while their benchmarks are primarily domestic based.

Leverage
All programs are currently within their leverage limits. Real Estate continues to reduce leverage within that program, having dropped approximately 3% since the last report.

	Leverage Limit	Current Leverage
Global Equity	10%	2.2%
Securities Lending	70%	35.0%
Real Estate	60%	48.2%
Infrastructure	65%	40.6%
Forestland	50%	20.2%

(Further detail is provided in Appendix page 4)

Counterparty Exposure
The derivative counterparty exposure report in appendix page 5, summarizes net amounts owed to or due from CalPERS investment counterparties. Amounts are aggregated for currency forwards, options, swaps and TBA securities. TBA are forward settled mortgage-backed securities. Amounts owed to CalPERS result in counterparty risk. As of March 31, 2011, there were no exposures owed to CalPERS requiring collateral postings.

Liquidity
Staff presented as part of the March agenda item a detailed liquidity schedule organized by investment program. Liquidity is heavily dependent upon market conditions. Staff will continue to monitor liquidity and provide an updated report when market conditions change.

V. STRATEGIC PLAN:

This item is consistent with Strategic Plan Goal VIII, manage the risk and volatility of assets and liabilities to assure that sufficient funds are available, first, to pay benefits and, second, to minimize and stabilize contributions.

VI. RESULTS/COSTS:

This item provides information to the Committee on the assets and performance of the fund. There are no additional costs associated with this item.

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